



<b>Catalog Number:</b>	RA22140	<b>Host:</b>	Rabbit
<b>Product Type:</b>	Rabbit polyclonal IgG	<b>Species Reactivity:</b>	Not applicable
<b>Immunogen Sequence:</b>	Recombinant SARS-CoV2 S-Protein ACE2 binding domain expressed in and purified from <i>E. coli</i>	<b>Format:</b>	Purified antibody at 1mg/mL in 50% PBS, 50% glycerol plus 5mM NaN3
<b>Applications:</b>	Immunofluorescent: 1:3,000-5,000 Immunocytochemistry: 1:3,000-5,000 Western Blot: 1:3,000-5,000		

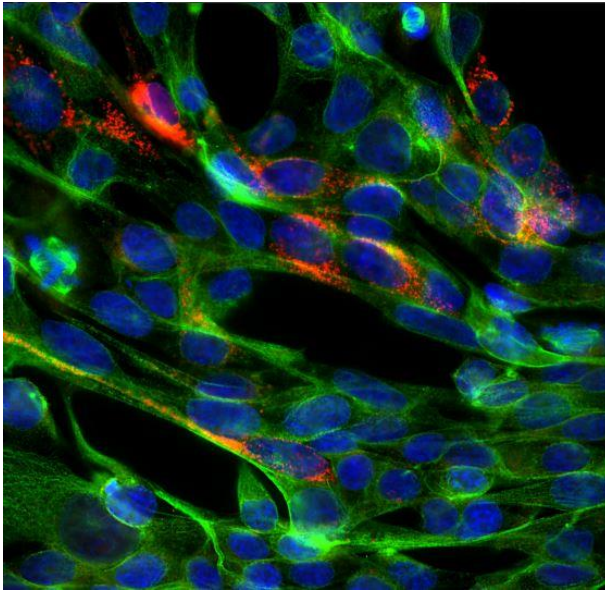
Dilutions listed as a recommendation. Optimal dilution should be determined by investigator.

**Storage:** Antibody can also be aliquotted and stored frozen at -20° C in a manual defrost freezer for six months without detectable loss of activity. The antibody is stable at 2° - 8° C for 1 year. Avoid repeated freeze-thaw cycles.

### Application Notes

#### Description/Data:

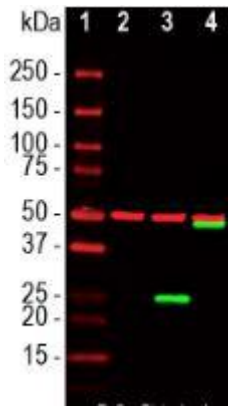
In late 2019 a novel infectious disease was discovered in Wuhan, China which was quickly recognized to be caused by a previously unknown RNA coronavirus. The virus was very rapidly isolated, the full RNA sequence determined and put online on the 10th of January 2020. The sequence revealed that the virus was most closely related to certain bat coronaviruses and the severe acute respiratory syndrome (SARS) coronavirus. Immediately biotechnology companies and research



institutes used the RNA sequence information to generate vaccine candidates. The SARS virus was known to enter and infect human cells by means of the so-called spike or S-protein which binds to the extracellular domain of the angiotensin converting enzyme 2 (ACE2) protein, which is then internalized bringing the virus into the cell. Cryoelectron microscopy and binding studies quickly determined that the S-protein of SARS-CoV2 is structurally similar to that of the SARS virus and also binds to the ACE2 receptor, albeit with higher affinity than the S-protein of SARS.

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Images: **Immunofluorescence:** Immunofluorescent analysis of HEK293 cells transfected with pCI-Neo-Mod vector (5) including DNA encoding the SARS-CoV2 S-protein ACE2 binding domain, amino acids 308-541 in the S-protein sequence. This region was used as the immunogen for development of rabbit antibody RA22140. The antibody was used at a dilution 1:3,000, shown in red. Cells costained with mAb to  $\beta$ -tubulin, dilution 1:5,000, in green. The blue is Hoechst staining of nuclear DNA. **Western Blot:** Western blot analysis of HEK293 cell lysates using rabbit pAb to SARS-CoV2-bd protein, dilution 1:2,000 in green: [1] protein standard, [2] non-transfected cells, [3] cells transfected with pCI-Neo-Mod vector containing the SARS-Cov-bd cDNA, and [4] cells transfected with pCI-Neo-GFP vector containing the SARS-CoV-bd cDNA.

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